DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 08/29/2011have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071,5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.1992). In this case, the Examiner very kindly directs the Applicant to Wiberg e.g., ¶ [0012], ¶ [0019], ¶ [0042], ¶ [0053]-¶ [0055], Figs. 5, 9-10, that the object of Wiberg is to facilitate the efficient use, and management of radio resources like **allocation of spreading codes**. The **RNC can perform its** radio resource management **responsibilities** if it is aware of **the current resource status** or use in the cell. Wiberg's invention provides measurements from the BS to the RNC concerning usage of codes currently allocated or assigned to a particular channel i.e., a high speed shared channel. As per Wiberg, **the RNC is configured to adjust the code allocation** to the high speed shared channel based on the measurements, i.e. **the code allocation adjustment is performed based on the reported measurements**. Wiberg teaches that using the **CDMA code usage information**, a determination is made whether or not CDMA codes currently **assigned**

to the radio channels are efficiently used. If not, the **current CDMA code allocation for the radio channels is changed**. The **code usage data is detected** by the monitor and the **RNC determines** whether or not to **change the code usage allocation** for the high speed downlink shared channel **based on the code usage data**. On the other hand, In an analogous field of endeavor, Hwang teaches a method for supporting downlink JD (Joint detection) in a TDD CDMA communication network system (See Hwang e.g., the "JD" Joint Detection in TDD-CDMA of Fig. 7A, ¶ [0021], ¶ [0023]); wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that use the downlink timeslot (See Hwang e.g., TDD-CDMA system, i.e., burst with the spreading codes associated with all of the UEs (a combination of TDMA and CDMA) of Fig. 7A, ¶ [0021], ¶ [0023]).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Hwang to Wiberg for the purpose of providing a method and or a system to estimate a channel environment between the base station and the UE, and is adapted to recognize information of channels transferred from the base station to the UE and efficiently allocation communication resources in both UL and DL direction as suggested (See Hwang e.g., ¶ [0015]).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).Therefore, the previous rejection is maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 5-17, 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiberg (US Pub. No.: 2003/0210660 A1) in view of Hwang (US Pub. No.: 2004/0052236 A1).

As per claims 1, 7, 10, 13, 16, 19, 21, 23, Wiberg teaches judging (See Wiberg e.g., the radio network controller (RNC) performing radio resource management, adjusting allocation of spreading codes of Fig. 5, ¶ [0012], ¶ [0042]) whether CAI (code allocation information) in a downlink timeslot wilt change in a next TTI (transmission time interval) (See Wiberg e.g., the detection of transport format by the monitor, the RNC deciding to change the code allocation for the high speed downlink shared channel based on the transport format of Figs. 9-10, ¶ [0054]); inserting changed CAI as a specific control information into a specified field in a traffic burst in the downlink timeslot corresponding to current TTI only if the CAI will change (See Wiberg e.g., mapping the code usage data / the spreading codes, determination of code allocation, and changing the code usage allocation for the high speed downlink shared channel based on the code usage data of Figs. 9-10, ¶ [0055]); the changed CAI comprising

spreading code resources associated with each of a plurality of UEs that uses the downlink timeslot (See Wiberg e.g., the spreading codes, determination of code allocation, and changing the code usage allocation for the high speed downlink shared channel based on the code usage data of Figs. 9-10, ¶ [0053]); sending the traffic burst comprising the specific control information to each of the UEs in the downlink timeslot via a downlink channel (See Wiberg e.g., measuring the code usage information for HS-DSCH, the code allocation of Fig. 9, ¶ [0053]). However, Wiberg does not explicitly teach a method for supporting downlink JD (Joint detection) in a TDD CDMA communication network system; wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that use the downlink timeslot.

In an analogous field of endeavor, Hwang teaches a method for supporting downlink JD (Joint detection) in a TDD CDMA communication network system (See Hwang e.g., the "JD" Joint Detection in TDD-CDMA of Fig. 7A, ¶ [0021], ¶ [0023]); wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that use the downlink timeslot (See Hwang e.g., TDD-CDMA system, i.e., burst with the spreading codes associated with all the UEs (a combination of TDMA and CDMA) of Fig. 7A, ¶ [0021], ¶ [0023]). .

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Hwang to Wiberg for the purpose of providing a method and or a system to estimate a channel environment between the base station and the UE, and is adapted to recognize information of

channels transferred from the base station to the UE and efficiently allocation communication resources in both UL and DL direction as suggested (See Hwang e.g., ¶ [0015]).

As per claims 2, 8, 11, 14, 17, 20, 22, 24, the combination teaches everything claimed as discussed in the rejected claims 1, 7, 10, 13, 16, 19, 21, 23. In addition, Wiberg teaches when establishing connection with a UE (See Wiberg e.g., mapping the code usage data / the spreading codes of Figs. 9-10, ¶ [0054]), the network system sends the initial CAI to the UE (See Wiberg e.g., The RNC determining and adjusting allocation of spreading codes of Fig. 5, ¶ [0042]).

As per claim 5, the combination teaches everything claimed as discussed in the rejected claim 2. In addition, Wiberg teaches wherein judging further includes: judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot (See Wiberg e.g., usage of CDMA codes efficiently, determination of changing code allocation of Figs. 6, 9-10, ¶ [0019]); wherein the changed CAI in step of inserting is the CA1 after the spreading code resource is reallocated (See Wiberg e.g., mapping the code usage data / the spreading codes, determination of changing code allocation of Figs. 6, 9-10, ¶ [0055]).

As per claims 6, 9, 12, 15, the combination teaches everything claimed as discussed in the rejected claims 1, 8, 11, 14. In addition, Hwang teaches wherein the specific control information allows each UE in the downlink timeslot to perform one of

the two JD methods of ZF-BLE and MMSE-BLE (See Hwang e.g., The MAI, ISI and the "JD" Joint Detection in TDD-CDMA of Fig. 7A, ¶ [0021], ¶ [0023]).

4. Claims 3-4, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiberg in view of Hwang, and in further view of Sun (US Pub. No.: 2009/0213904 A1).

As per claims 3-4, 18, the combination teaches everything claimed as discussed in the rejected claims 2, 16. In addition, Wiberg teaches judging that the CAI changes (See Wiberg e.g., determination of changing code allocation of Figs. 6, 9-10, ¶ [0055]); wherein the changed CAI in step of inserting is the CAI after the spreading code resource is reclaimed (See Wiberg e.g., the code allocation of Figs. 9-10, 13-14, ¶ [0055]). However, the combination does not explicitly teach at least one active UE leaving the downlink timeslot; reclaiming the spreading code resource released by the UE.

In an analogous field of endeavor, Sun teaches at least one active UE leaving the downlink timeslot (See Sun e.g., the user releasing the assigned code upon leaving a cell of ¶ [0036]); reclaiming the spreading code resource released by the UE (See Sun e.g., the user releasing the assigned code in exchange for a new code upon leaving the cell of ¶ [0036]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Sun to Wiberg, Hwang for the purpose of utilizing the radio resources wisely and efficiently as suggested (See Sun e.g., ¶ [0006]).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 08:00 AM -04:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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